

Fig. 1

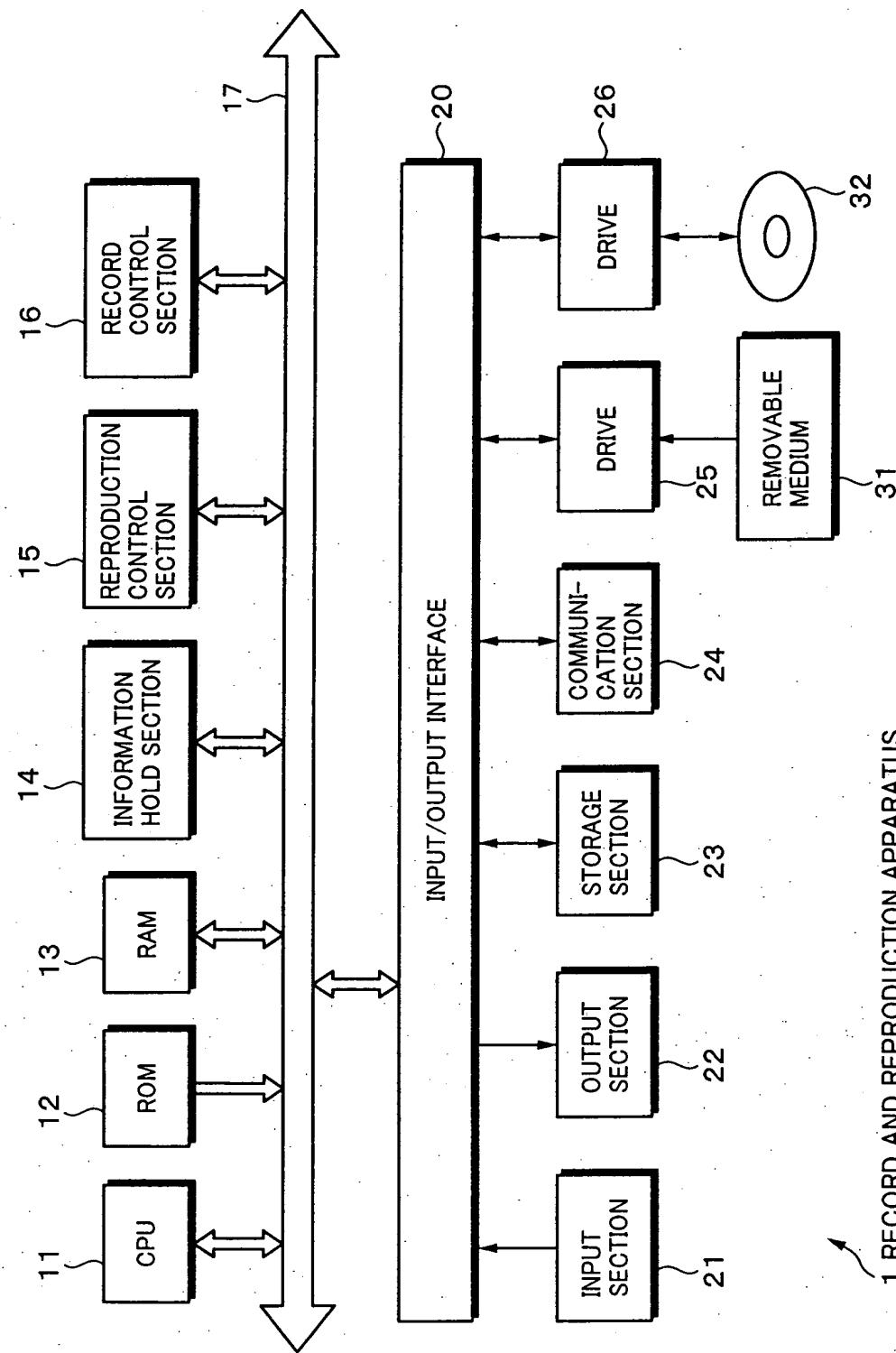


Fig. 2

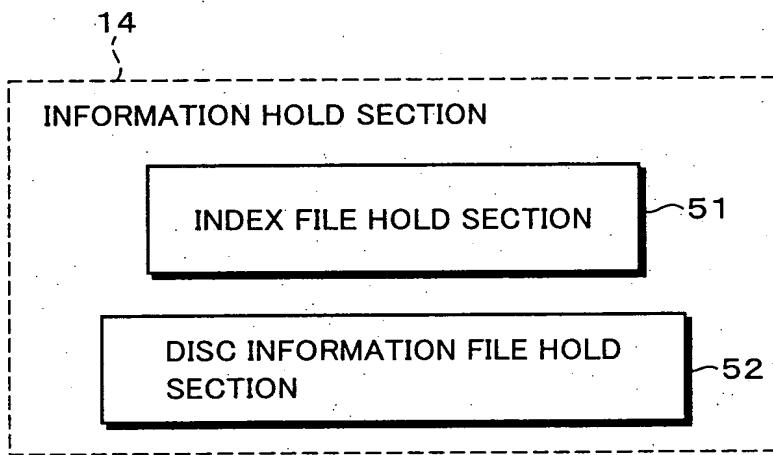


Fig. 3

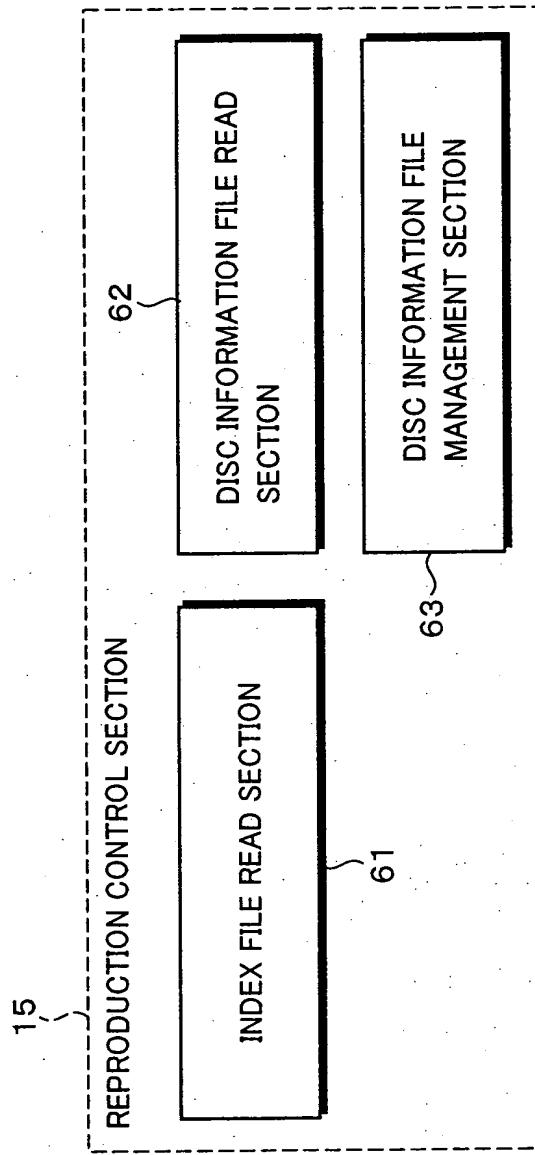


Fig. 4

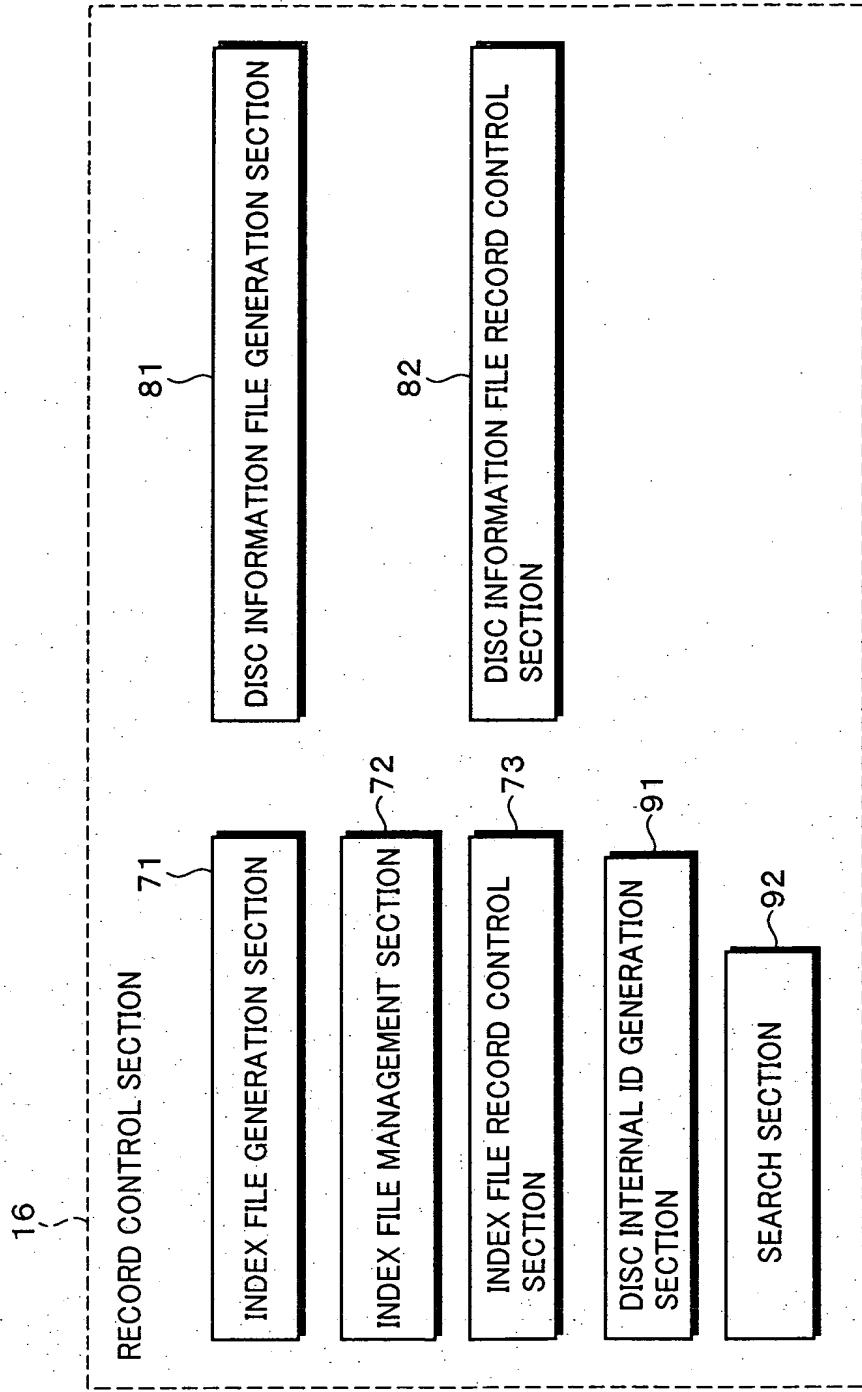


Fig. 5

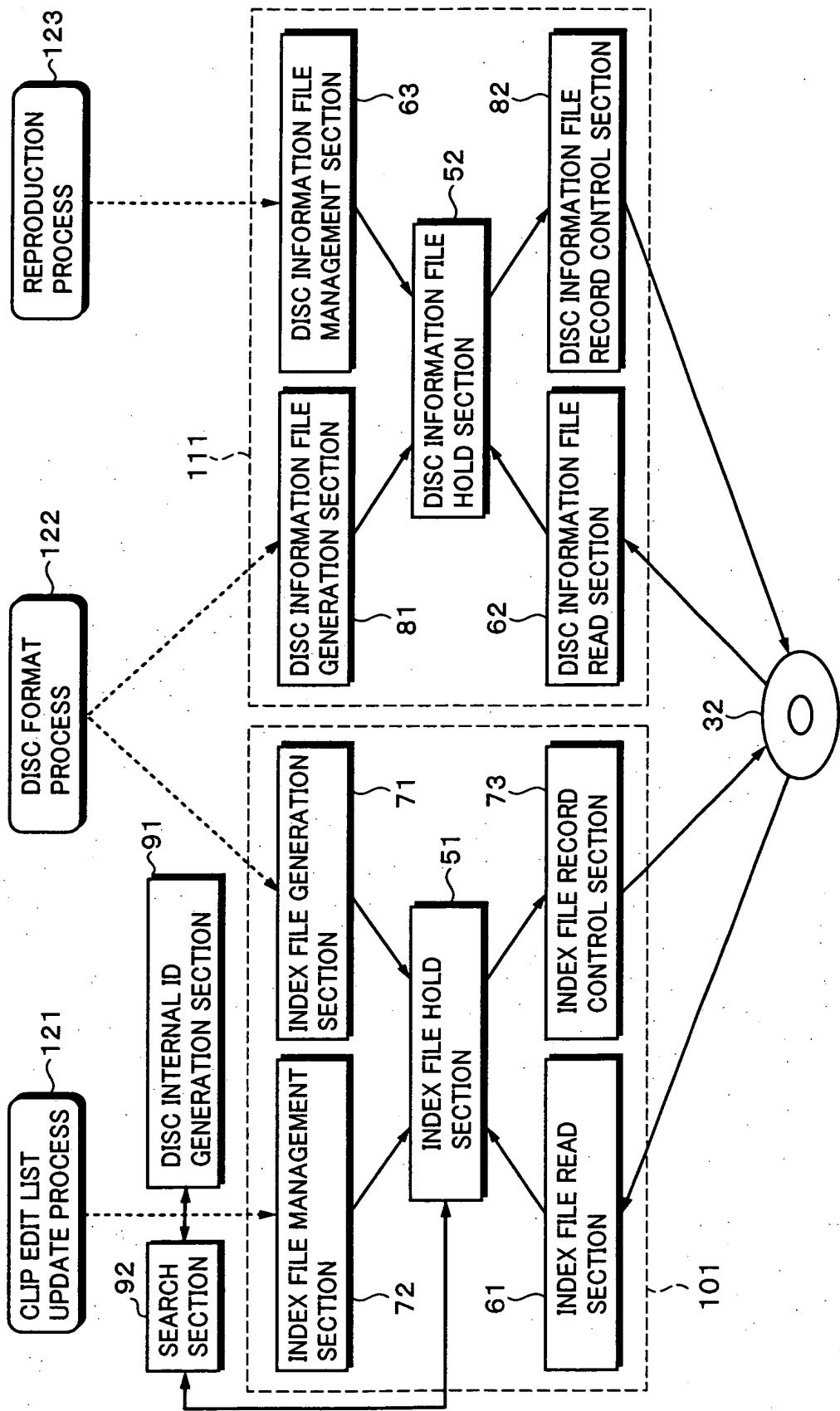


Fig. 6

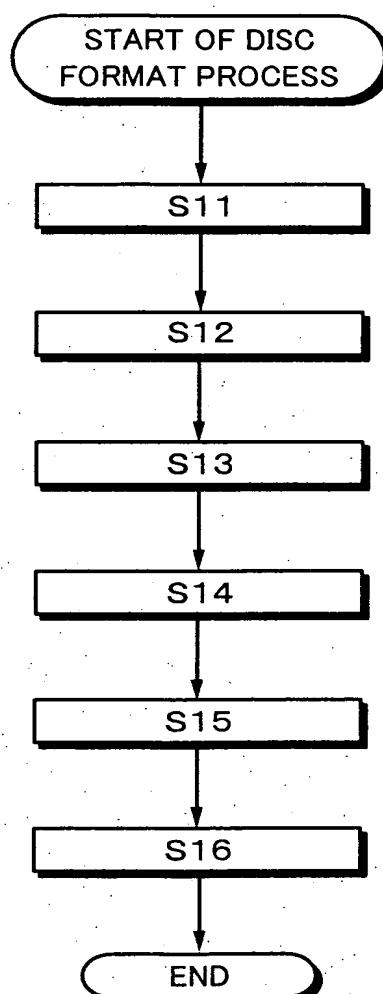


Fig. 7

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <indexFile xmlns="urn:schemas-professionalDisc:index"
3 indexId="0123456789ABCDEF0123456789ABCDEF">
4 <clipTable path="/PROAV/CLPR//"/>
5   <!-- Normal Clip -->
6     <clip id="C0001" umid="0D1213000000000000104444484EEEE00E0188E130B"
7       file="C0001C01.SMI" fps="59.94i" dur="12001" ch="4" aspectRatio="4:3">
8       <video umid="0D1213000000000000104444484EEEE00E0188E130B"
9         file="C0001V01.MXF" type="DV25_411" header="65536"/>
10      <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
11        file="C0001A01.MXF" type="LPCM16" header="65536" trackDst="CH1"/>
12      <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
13        file="C0001A02.MXF" type="LPCM16" header="65536" trackDst="CH2"/>
14      <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
15        file="C0001A03.MXF" type="LPCM16" header="65536" trackDst="CH3"/>
16      <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
17        file="C0001A04.MXF" type="LPCM16" header="65536" trackDst="CH4"/>
18      <subStream umid="0D1213000000000000104444484EEEE00E0188E130B"
19        file="C0001S01.MXF" type="PD-SubStream" header="65536"/>
20      <meta file="C0001M01.XML" type="PD-Meta" />
21      <meta file="C0001M02.TXT" type="Key:0123456789ABCDEF" />
22      <rtmeta file="C0001R01.BIM" type="std2k" header="65536"/>
23   </clip>
24   <!-- Partial Deleted Clip -->
25     <clip id="C0002" umid="0D1213000000000000104444484EEEE00E0188E130B"
26       file="C0002C01.SMI" fps="59.94i" dur="4000" ch="4" aspectRatio="4:3">
27       <video umid="0D1213000000000000104444484EEEE00E0188E130B"
28         file="C0002V01.MXF" type="IMX50" header="80000"/>
29       <audio umid="0D1213000000000000104444484EEEE00E0188E130B"

```

Fig. 8

```

1   file="C0002A01.MXF" type="LPCM16" header="100000" trackDst="CH1"/>
2   <audio umid="0D1213000000000000104444484EEE00E0188E130B"
3   file="C0002A02.MXF" type="LPCM16" header="100000" trackDst="CH2"/>
4   <audio umid="0D1213000000000000104444484EEE00E0188E130B"
5   file="C0002A03.MXF" type="LPCM16" header="100000" trackDst="CH3"/>
6   <audio umid="0D1213000000000000104444484EEE00E0188E130B"
7   file="C0002A04.MXF" type="LPCM16" header="100000" trackDst="CH4"/>
8   <subStream umid="0D121300000000000104444484EEE00E0188E130B"
9   file="C0002S01.MXF" type="PD-SubStream" header="90000"
10  clipBegin="8"/>
11  <meta file="C0002M01.XML" type="PD-Meta"/>
12  <rtmeta file="C0002R01.BIM" type="std2k" header="70000"/>
13  </clip>
14  <!-- Refered Clip -->
15  <clip id="C0003" umid="0D121300000000000104444484EEE00E0188E130B"
16  file="C0003C01.SMT" fps="59.94i" dur="100000" ch="4" aspectRatio="4:3"
17  referer="E0001 E0002 E0003">
18  <video umid="0D121300000000000104444484EEE00E0188E130B"
19  file="C0003V01.MXF" type="IMX50" header="65536"/>
20  <audio umid="0D121300000000000104444484EEE00E0188E130B"
21  file="C0003A01.MXF" type="LPCM16" header="65536" trackDst="CH1"/>
22  <audio umid="0D121300000000000104444484EEE00E0188E130B"
23  file="C0003A02.MXF" type="LPCM16" header="65536" trackDst="CH2"/>
24  <audio umid="0D121300000000000104444484EEE00E0188E130B"
25  file="C0003A03.MXF" type="LPCM16" header="65536" trackDst="CH3"/>
26  <audio umid="0D121300000000000104444484EEE00E0188E130B"
27  file="C0003A04.MXF" type="LPCM16" header="65536" trackDst="CH4"/>
28  <subStream umid="0D121300000000000104444484EEE00E0188E130B"
29  file="C0003S01.MXF" type="PD-SubStream" header="65536"/>
```

Fig. 9

```

1   <meta file="C0003M01.XML" type="PD-Meta"/>
2   <rtpmeta file="C0003R01.BIN" type="std2k" header="65536"/>
3   </clip>
4   <!-- Long GOP -->
5   <clip id="C0004" umid="0D12130000000000104444484EEEE00E0188E130B"
6   file="C0004C01.SMI" fps="59.94i" dur="12001" ch="4" aspectRatio="16:9"
7   referer="E0004">
8   <video umid="0D1213000000000000104444484EEEE00E0188E130B"
9   file="C0004V01.MXF" type="MPEG2HD25_1440_MP@HL" header="65536"/>
10  <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
11   file="C0004A01.MXF" type="LPCM16" header="65536" trackDst="CH1"/>
12  <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
13   file="C0004A02.MXF" type="LPCM16" header="65536" trackDst="CH2"/>
14  <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
15   file="C0004A03.MXF" type="LPCM16" header="65536" trackDst="CH3"/>
16  <audio umid="0D1213000000000000104444484EEEE00E0188E130B"
17   file="C0004A04.MXF" type="LPCM16" header="65536" trackDst="CH4"/>
18  <subStream umid="0D1213000000000000104444484EEEE00E0188E130B"
19   file="C0004S01.MXF" type="PD-SubStream" header="65536"/>
20  <meta file="C0004M01.XML" type="PD-Meta"/>
21  <meta file="C0004T01.XML" type="PD-PP"/>
22  <rtpmeta file="C0004R01.BIN" type="std2k" header="65536"/>
23  </clip>
24  </clipTable>
25  <editListTable path="/PROAV/EDTR/">
26  <editList id="E0001" umid="0D1213000000000000104444484EEEE00E0188E130B"
27   file="E0001E01.SMI" dur="500" fps="59.94i" ch="4" aspectRatio="4:3"/>
28  <meta file="E0001M01.XML" type="PD-Meta"/>

```

Fig. 10

```
1 </editList>
2 <editList id="E0002" umid="0D12130000000000104444484EEEE0E0188E130B"
3   file="E0002E01.XML" dur="500" fps="59.94i" ch="4" aspectRatio="4:3">
4     <meta file="E0002M01.XML" type="PD-Meta"/>
5   </editList>
6   <editList id="E0003" umid="0D12130000000000104444484EEEE0E0188E130B"
7     file="E0003E01.XML" dur="500" fps="59.94i" ch="4" aspectRatio="4:3">
8       <meta file="E0003M01.XML" type="PD-Meta"/>
9     </editList>
10    <editList id="E0004" umid="0D12130000000000104444484EEEE0E0188E130B"
11      file="E0003E01.XML" dur="500" fps="59.94i" ch="4" aspectRatio="16:9">
12        <meta file="E0003M01.XML" type="PD-Meta"/>
13        <meta file="E0003I01.XML" type="PD-pp"/>
14      </editList>
15    </editListTable>
16  </indexFile>
```

Fig. 11

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <discinfo xmlns="urn:schemas-professionalDisc:discinfo">
3   <history>
4     <clip id="C0003" ftc="smpte-30-drop=00:30:12:23" />
5     <editlist id="E0001" ftc="smpte-30-drop=00:00:15" />
6     <tape id="C0003" ftc="smpte-30-drop=00:02:23:12" />
7     <editlist id="E0004" ftc="smpte-30-drop=00:00:10:02" />
8     <clip id="C0002" ftc="smpte-30-drop=00:01:02:03" />
9     <clip id="C0004" ftc="smpte-30-drop=00:05:43:21" />
10   </history>
11 </discinfo>
```

Fig. 12

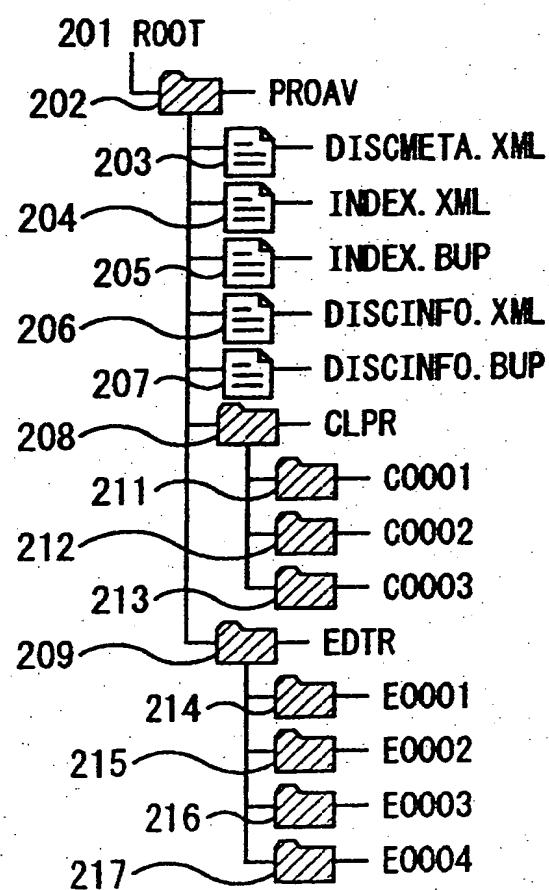


Fig. 13

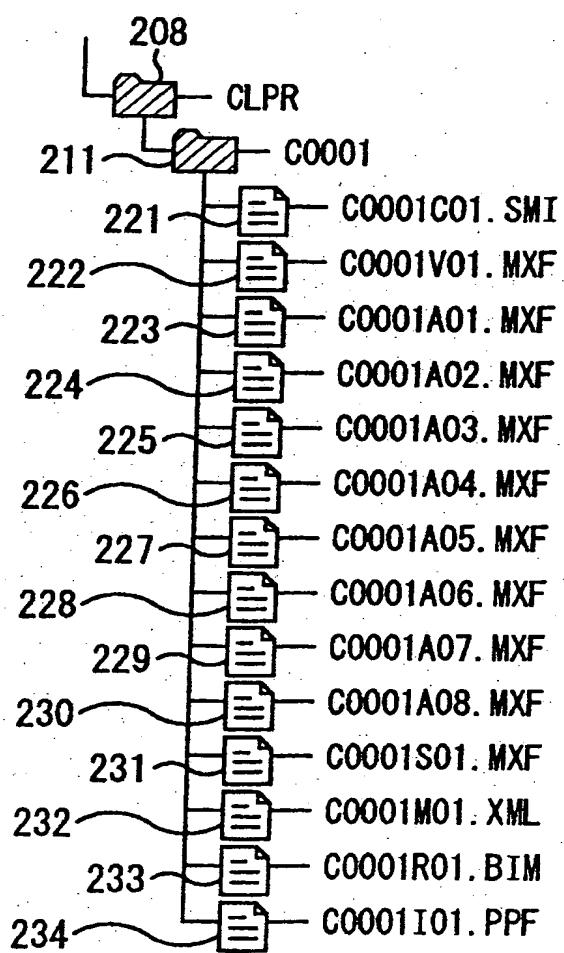


Fig. 14

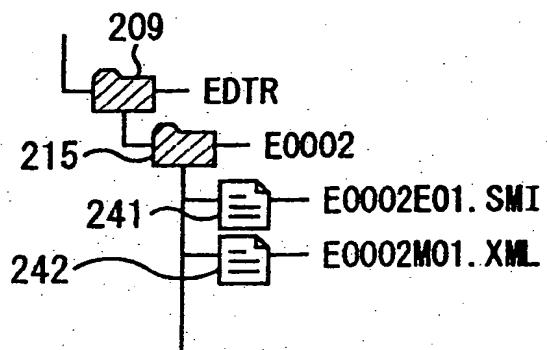


Fig. 15

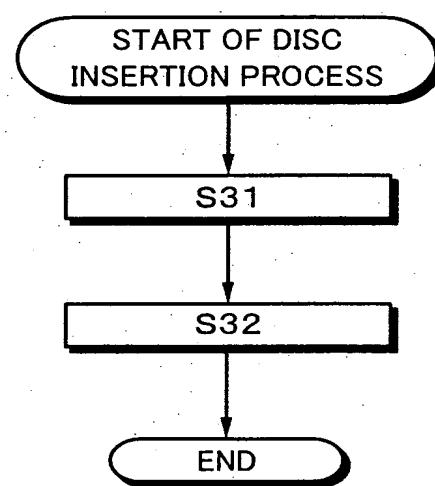


Fig. 16

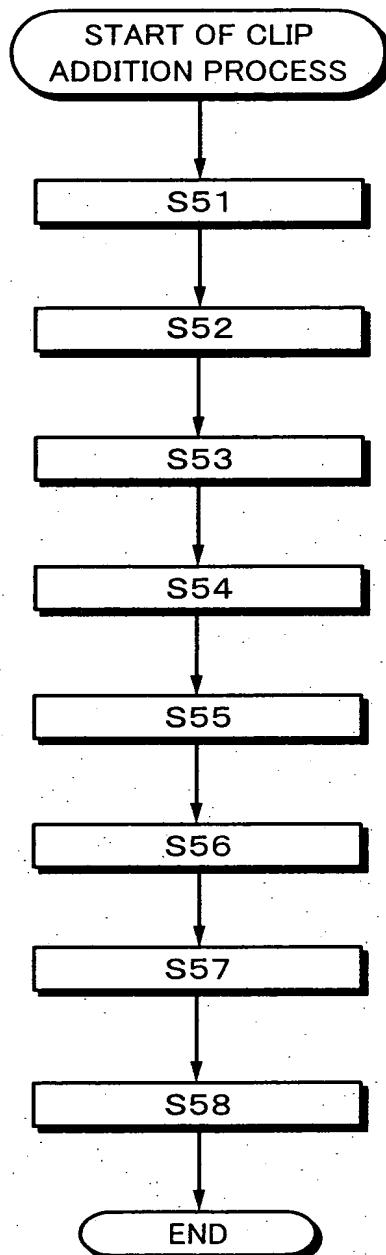


Fig. 17

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <smil xmlns="urn:schemas-professionalDisc:edl:clipInfo">
3 <head>
4   <metadata type="Meta">
5     <!-- non real time meta -->
6     <NRMeta xmlns="urn:schemas:prodisc:nrt">
7       <ref src="G0001M01.XML"/>
8     </NRMeta>
9   </metadata>
10  </head>
11  <body>
12    <par>
13      <switch>
14        <!-- main stream -->
15        <par systemComponent="IMX50">
16          <video
17            src="urn:smpte:umid:060A2B3401010501010D121300000000123456789ABCDEF0123456789ABCDEF"
18            type="IMX50"/>
19          <audio
20            src="urn:smpte:umid:060A2B3401010501010D121300000000123456789ABCDEF0123456789ABCDEF0"
21            type="LPCM16" trackDst="CH1"/>
22          <audio
23            src="urn:smpte:umid:060A2B3401010501010D12130000000023456789ABCDEF0123456789ABCDEF01"
24            type="LPCM16" trackDst="CH2"/>
25          <audio
26            src="urn:smpte:umid:060A2B3401010501010D1213000000003456789ABCDEF0123456789ABCDEF012"
27            type="LPCM16" trackDst="CH3"/>
28          <audio
29            src="urn:smpte:umid:060A2B3401010501010D121300000000456789ABCDEF0123456789ABCDEF0123"
```

Fig. 18

```
1 type="LPCM16" trackDst="CH4" />
2 <audio o
3 src="urn:smpte:umid:060A2B3401010501010D121300000056789ABCDEF0123456789ABCDEF01234"
4 type="LPCM16" trackDst="CH5" />
5 <audio o
6 src="urn:smpte:umid:060A2B3401010501010D12130000006789ABCDEF0123456789ABCDEF012345"
7 type="LPCM16" trackDst="CH6" />
8 <audio o
9 src="urn:smpte:umid:060A2B3401010501010D1213000000789ABCDEF0123456789ABCDEF0123456"
10 type="LPCM16" trackDst="CH7" />
11 <audio o
12 src="urn:smpte:umid:060A2B3401010501010D121300000089ABCDEF0123456789ABCDEF01234567"
13 type="LPCM16" trackDst="CH8" />
14 </par>
15 <!-- sub stream -->
16 <ref
17 src="urn:smpte:umid:060A2B3401010501010D12130000009ABCDEF0123456789ABCDEF012345678"
18 type="SubStream" systemComponent="SubStream" />
19 </switch>
20 <!-- real time meta -->
21 <metastream src="C0001R01.BIM" type="required2k" />
22 </par>
23 </body>
24 </smil>
```

Fig. 19

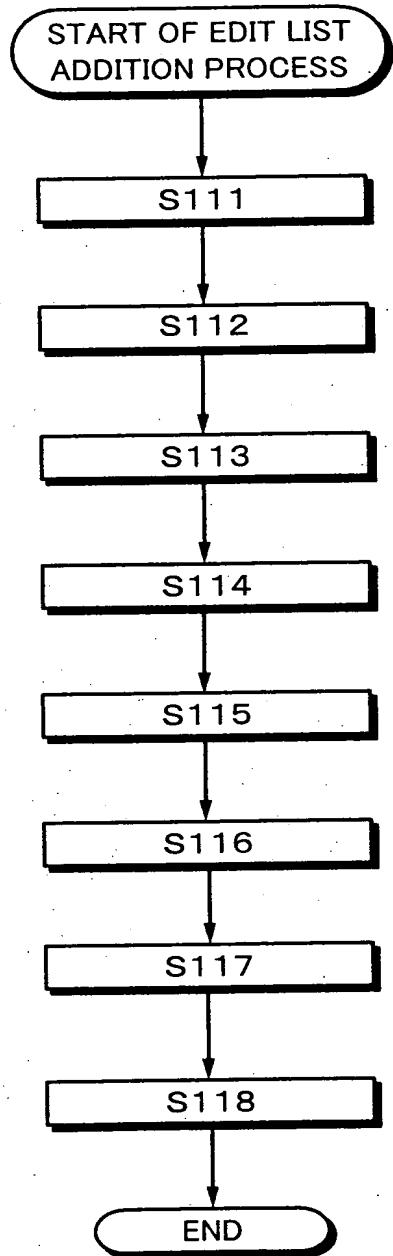


Fig. 20

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <smil xmlns="urn:schemas-professionalDisc:edi:editList">
3   <head>
4     <metadata type="Meta">
5       <!-- non real time meta -->
6         <NRI Meta xmlns="urn:schemas-professionalDisc:nrt">
7           <ref src="E0002M01.XML"/>
8         </NRI Meta>
9       </metadata>
10      </head>
11      <body>
12        <par>
13          <!-- Clip1 -->
14          <ref
15            src="urn:smpte:jumid:060A2B3401010501010D1213000000FEDCBA9876543210FEDCBA9876543210"
16            type="edIDoc" begin="smpte-30=00:00:00" clipBegin="smpte-30=00:00:00" clipEnd="smpte-
17            30=00:10:00.00"/>
18          <!-- Clip2 -->
19          <ref
20            src="urn:smpte:jumid:060A2B3401010501010D1213000000FEDCBA9876543210FEDCBA9876543210F"
21            type="edIDoc" begin="smpte-30=00:10:00:00" clipBegin="smpte-30=00:02:00:00" clipEnd="smpte-
22            30=00:03:30.00"/>
23        </par>
24      </body>
25    </smil>
```

Fig. 21

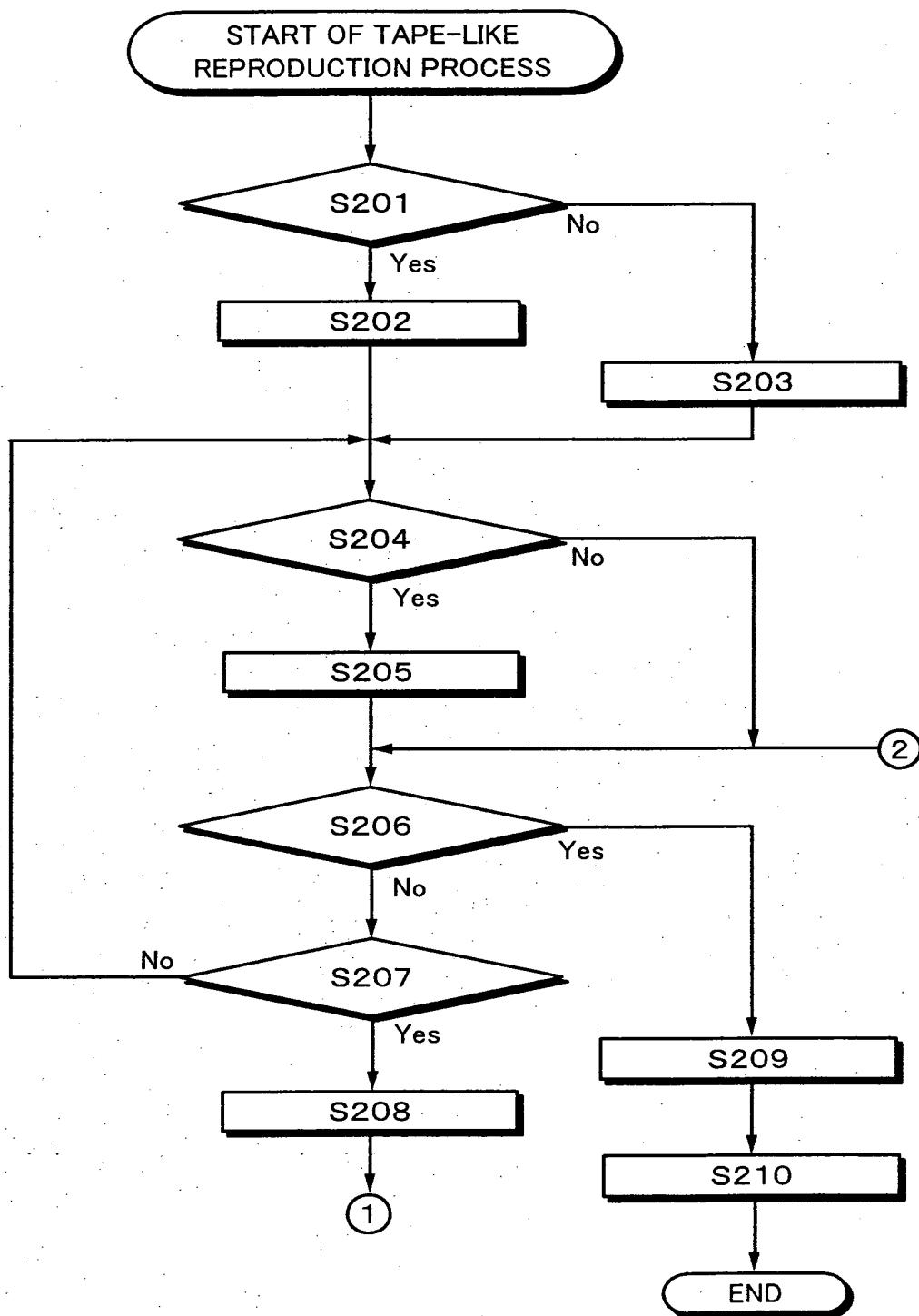


Fig. 22

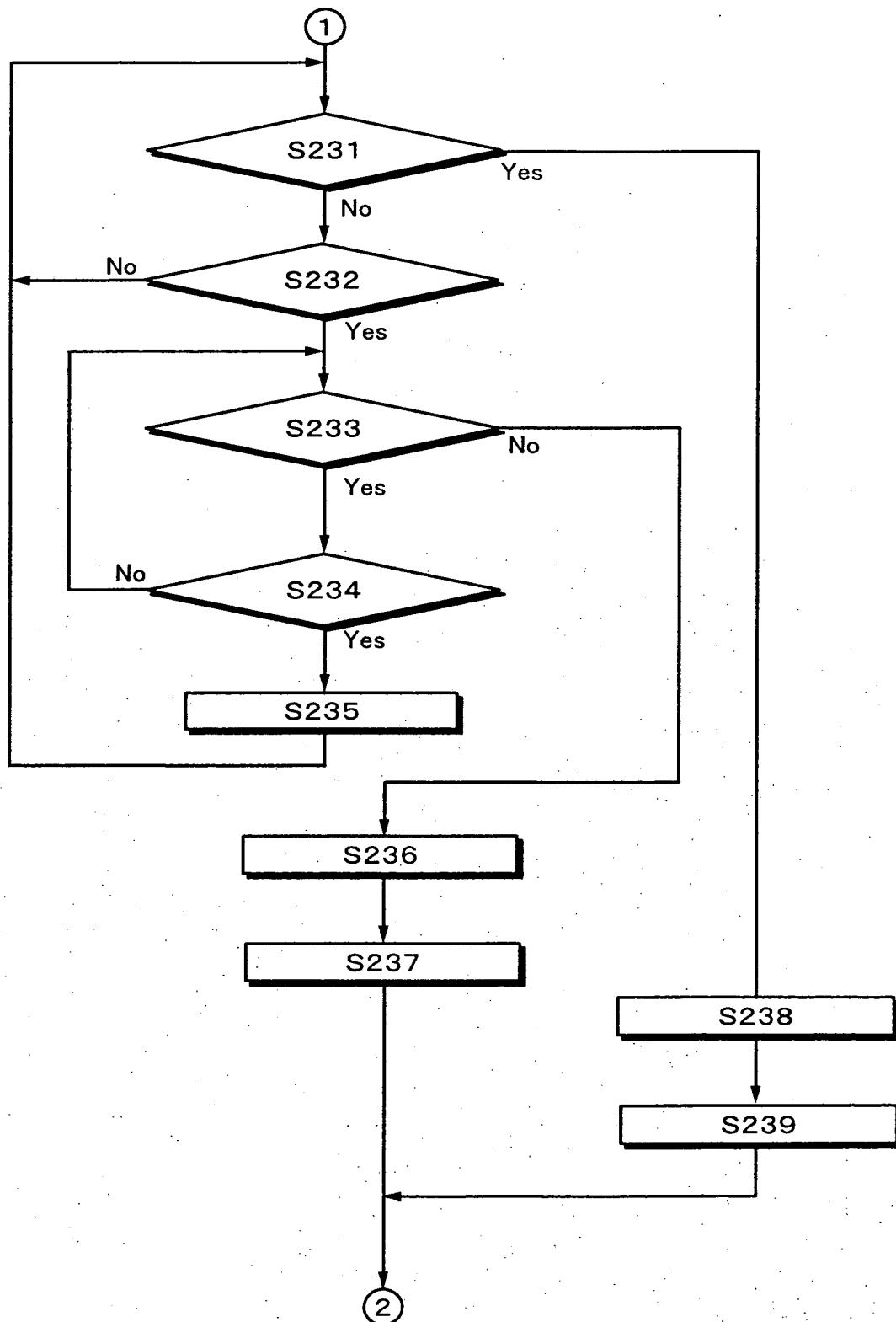


Fig. 23

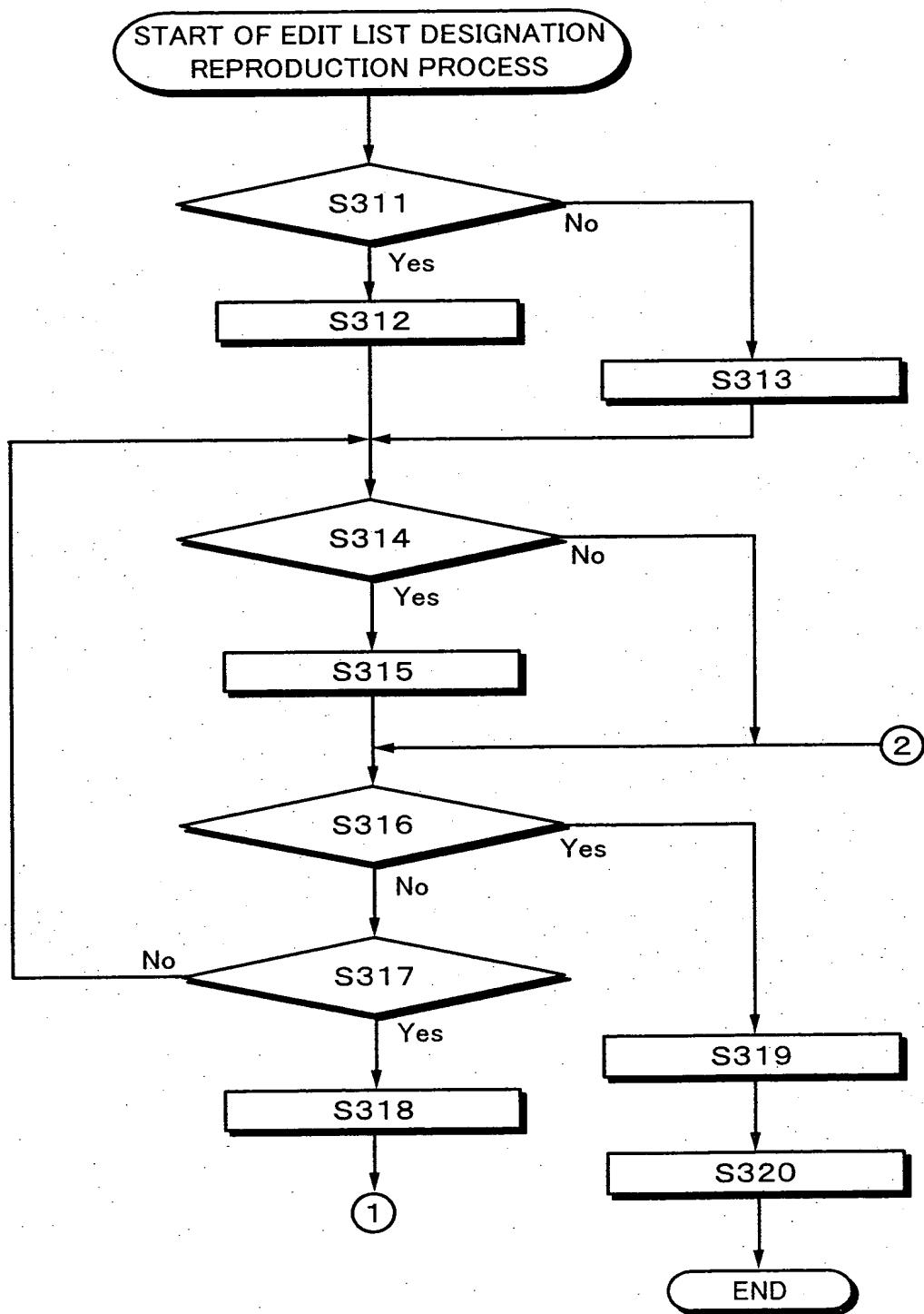


Fig. 24

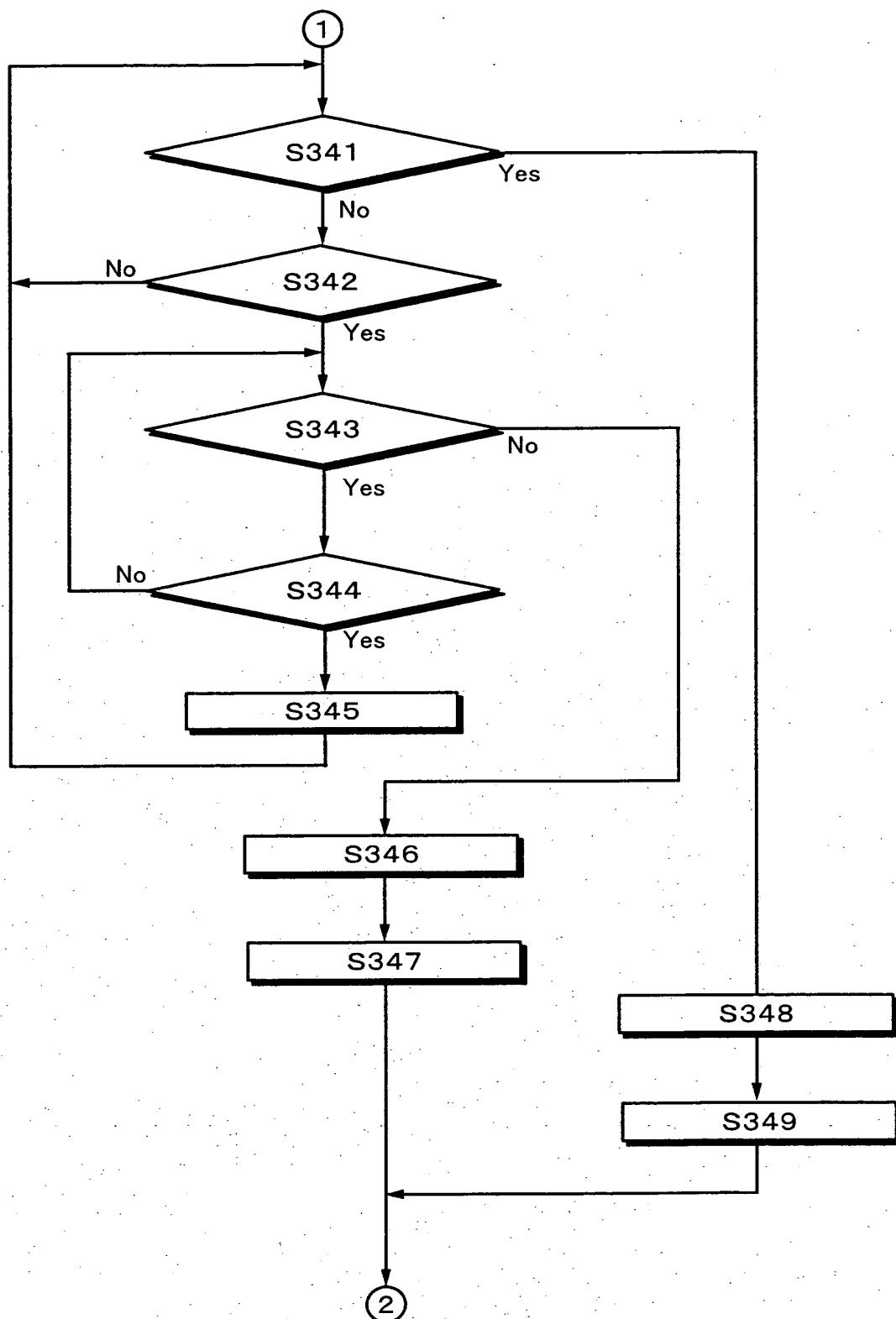


Fig. 25

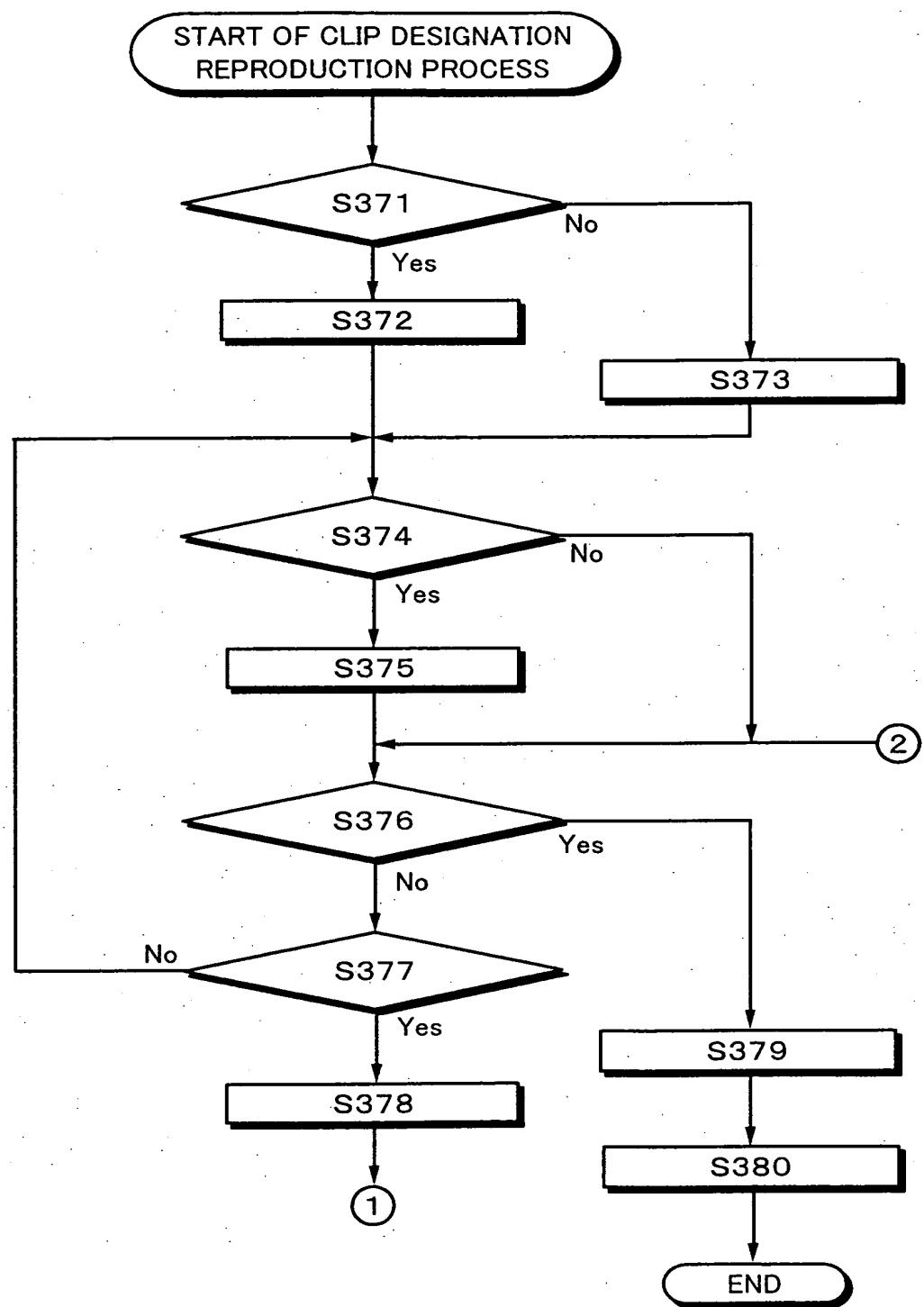


Fig. 26

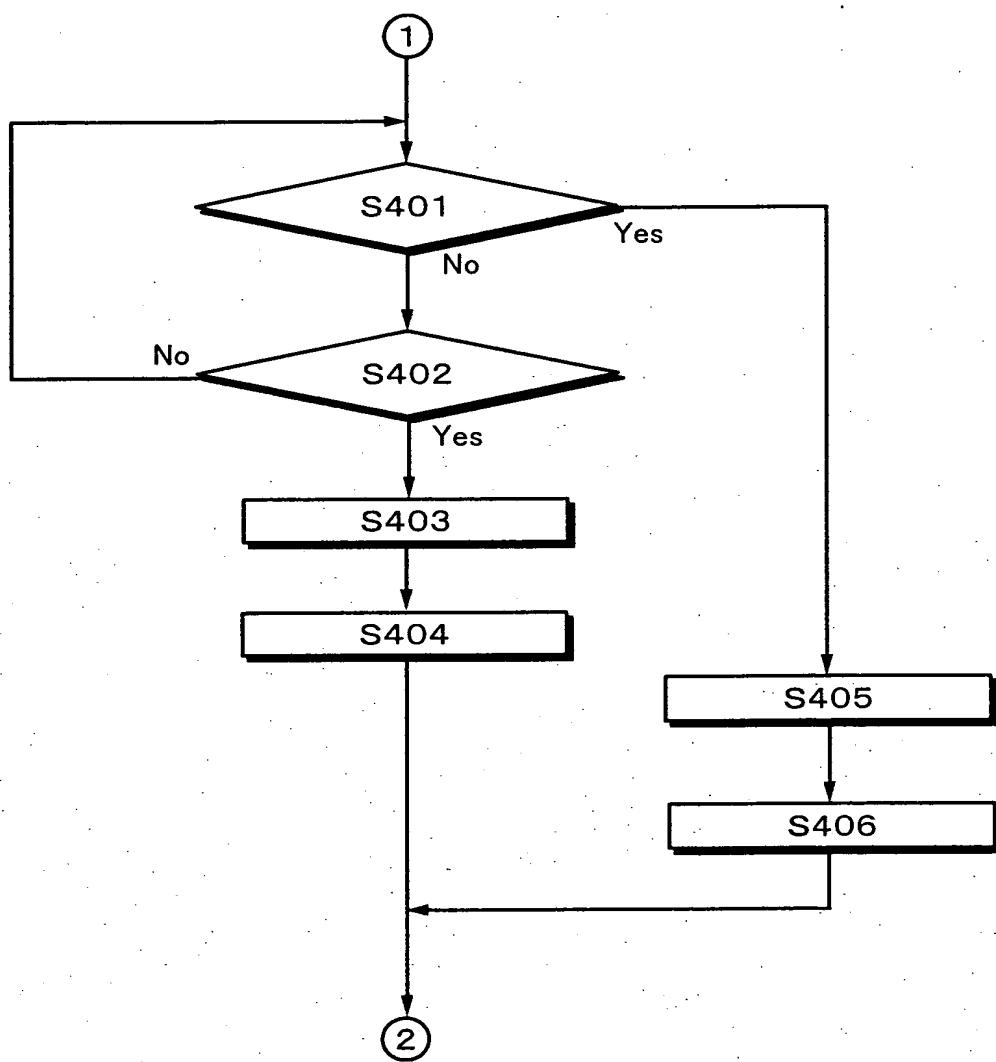


Fig. 27

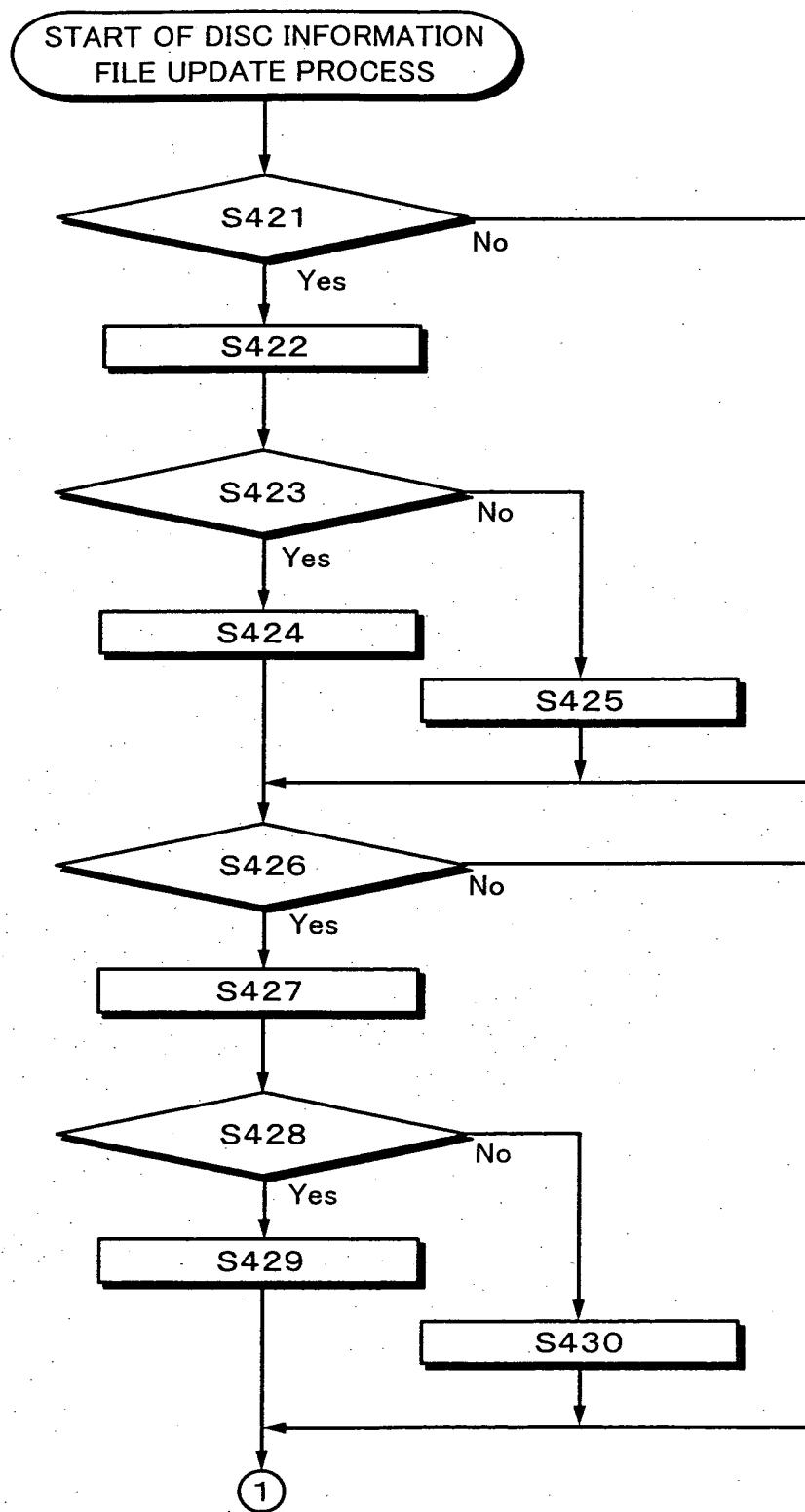


Fig. 28

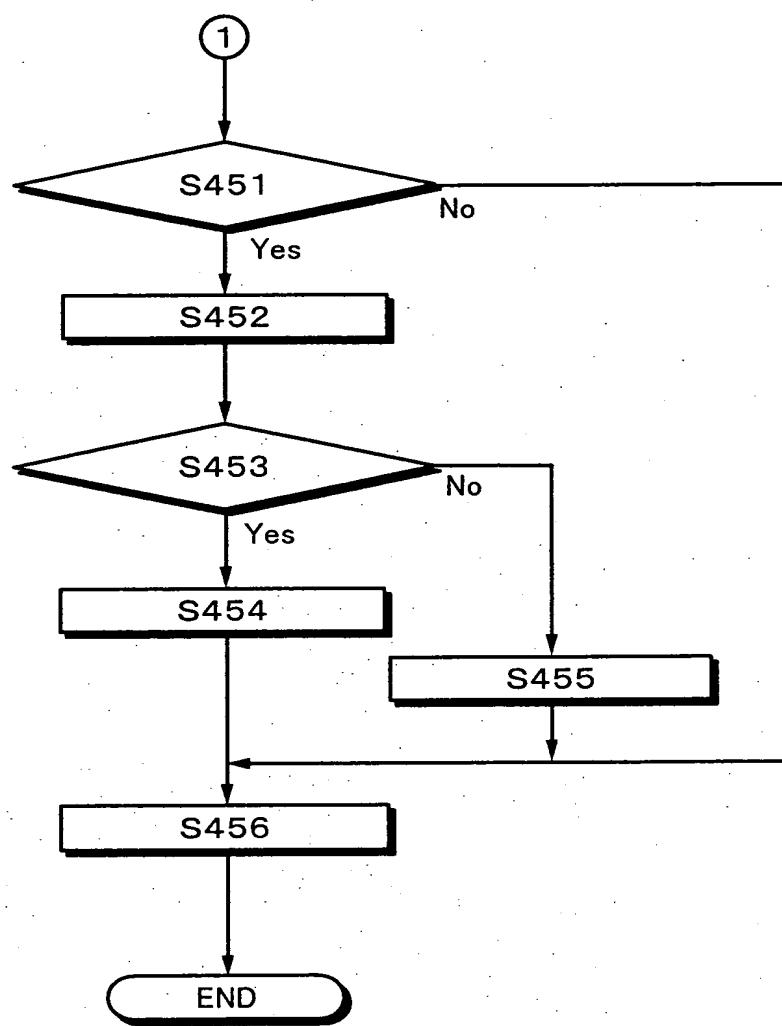


Fig. 29

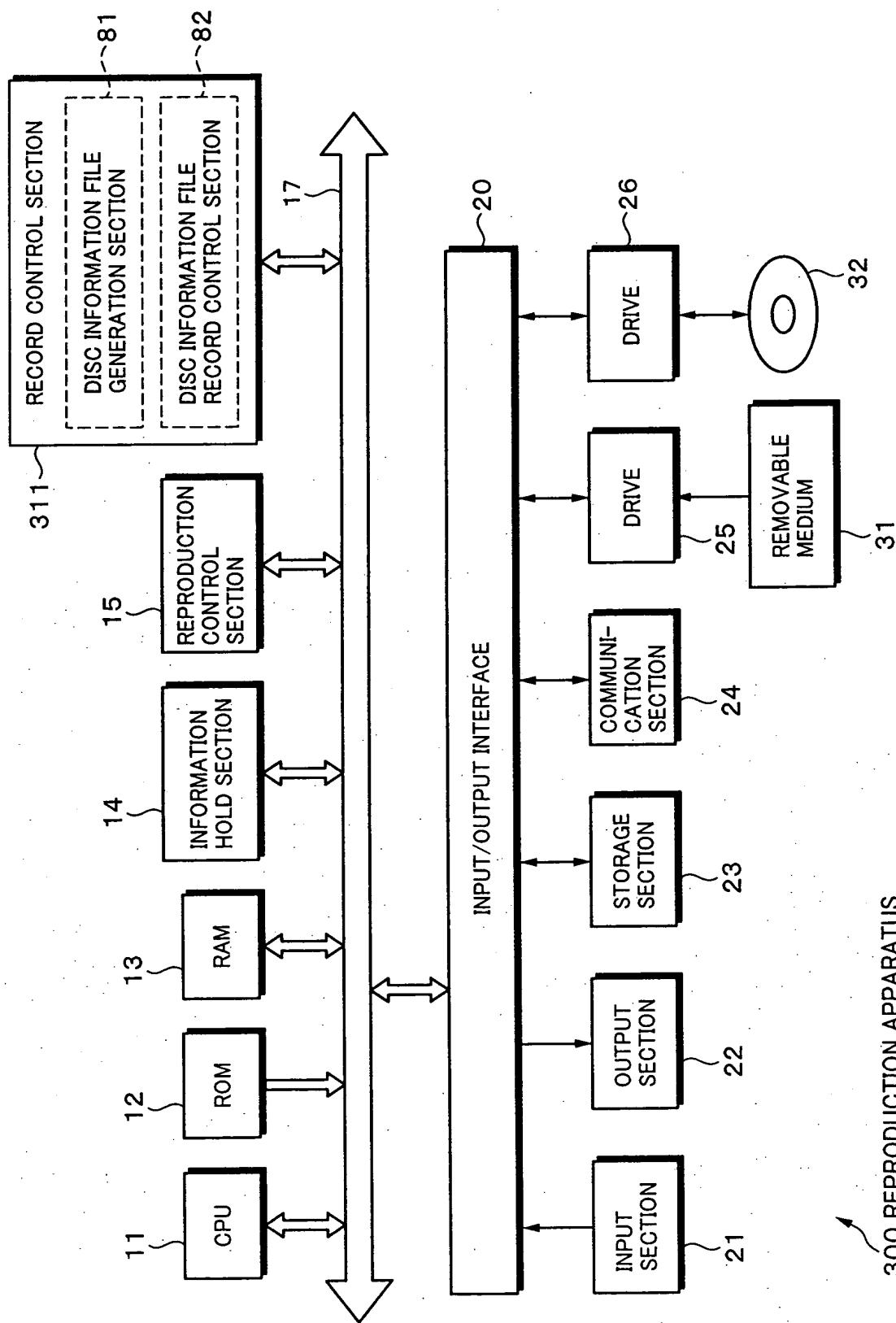
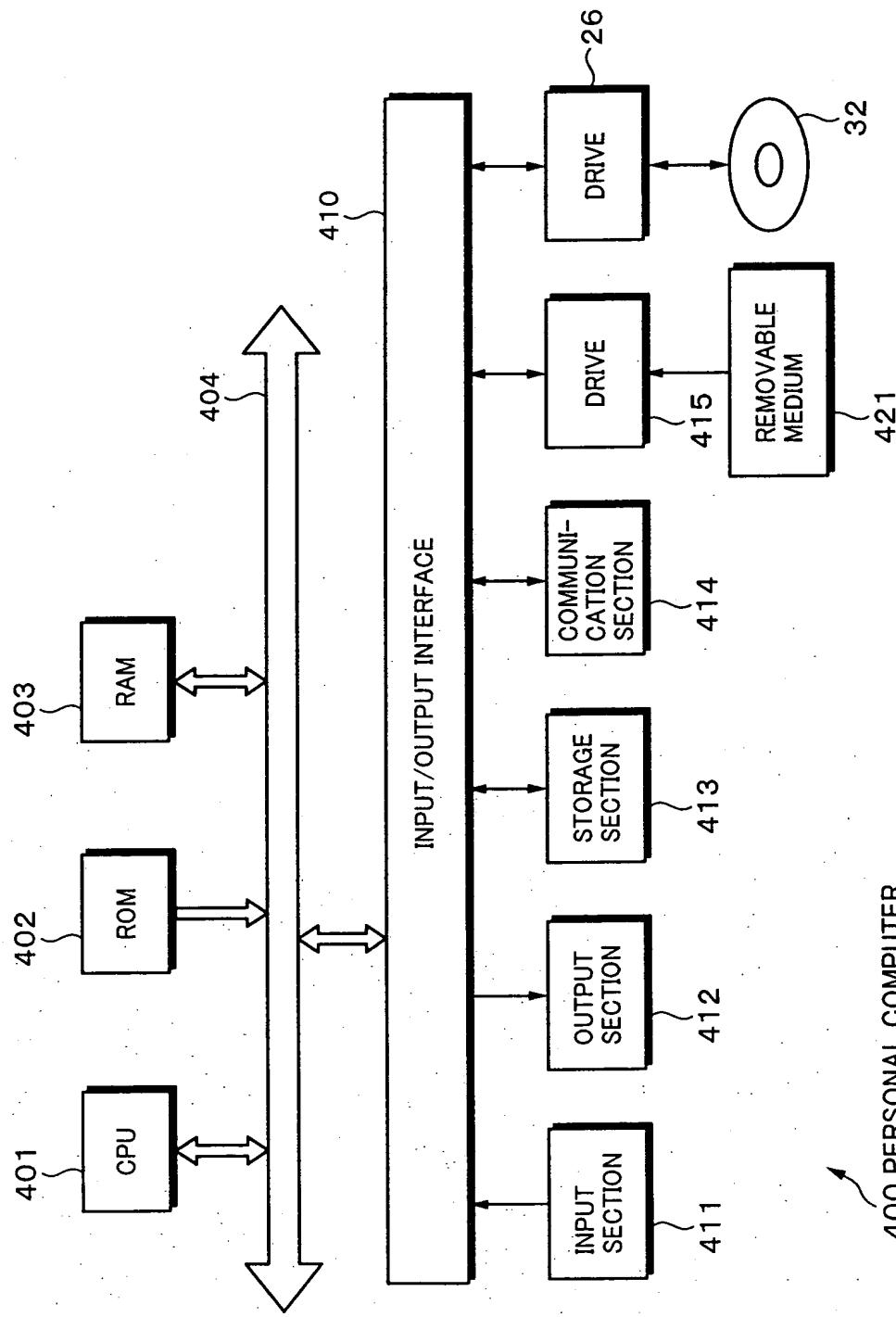


Fig. 30



DESCRIPTION OF REFERENCE NUMERALS

- 1 RECORD AND REPRODUCTION APPARATUS
- 14 INFORMATION HOLD SECTION
- 15 REPRODUCTION CONTROL SECTION
- 16 RECORD CONTROL SECTION
- 32 DISC
- 51 INDEX FILE HOLD SECTION
- 52 DISC INFORMATION FILE HOLD SECTION
- 61 INDEX FILE READ SECTION
- 62 DISC INFORMATION FILE READ SECTION
- 63 DISC INFORMATION FILE MANAGEMENT SECTION
- 71 INDEX FILE GENERATION SECTION
- 72 INDEX FILE MANAGEMENT SECTION
- 73 INDEX FILE RECORD CONTROL SECTION
- 81 DISC INFORMATION FILE GENERATION SECTION
- 82 DISC INFORMATION FILE RECORD CONTROL SECTION
- 91 DISC INTERNAL ID GENERATION SECTION
- 92 SEARCH SECTION
- 204 INDEX FILE
- 206 DISC INFORMATION FILE
- 300 REPRODUCTION APPARATUS
- 311 RECORD CONTROL SECTION
- S11 PERFORM UDF FORMAT PROCESS.
- S12 GENERATE PROAV ROOT DIRECTORY.
- S13 GENERATE CLIP ROOT DIRECTORY.

- S14 GENERATE EDIT LIST ROOT DIRECTORY.
- S15 GENERATE INDEX FILE.
- S16 GENERATE DISC INFORMATION FILE.
- S31 READ INDEX FILE.
- S32 READ DISC INFORMATION FILE.
- S51 GENERATE CLIP DIRECTORY.
- S52 GENERATE CLIP INFORMATION FILE.
- S53 GENERATE FILE FOR EACH TYPE DATA THAT COMPOSE CLIP.
- S54 ADD CLIP ELEMENT TO CLIP TABLE.
- S55 REFERENCE CLIP TABLE AND SEARCH IT FOR MAXIMUM VALUE OF DISC INTERNAL ID.
- S56 GENERATE NEW DISC INTERNAL ID ACCORDING TO MAXIMUM VALUE OF DISC INTERNAL ID.
- S57 ADD NEW DISC INTERNAL ID TO CLIP ELEMENT ADDED TO CLIP TABLE AND ASSOCIATE DISC INTERNAL ID WITH UMID AND FILE NAME OF CLIP INFORMATION FILE CONTAINED IN CLIP ELEMENT.
- S58 RECORD INDEX FILE.
- S111 GENERATE EDIT LIST DIRECTORY.
- S112 GENERATE EDIT LIST FILE.
- S113 GENERATE EACH FILE THAT COMPOSES EDIT LIST.
- S114 ADD EDIT LIST ELEMENT TO EDIT LIST TABLE.
- S115 REFERENCE EDIT LIST TABLE AND SEARCH IT FOR MAXIMUM VALUE OF DISC INTERNAL ID
- S116 GENERATE NEW DISC INTERNAL ID ACCORDING TO MAXIMUM VALUE OF DISC INTERNAL ID.

S117 ADD NEW DISC INTERNAL ID TO EDIT LIST ELEMENT ADDED TO EDIT LIST TABLE AND ASSOCIATE DISC INTERNAL ID WITH UMID AND FILE NAME OF EDIT LIST INFORMATION FILE CONTAINED IN EDIT LIST ELEMENT.

S118 RECORD INDEX FILE.

S201 DOES REPRODUCTION HISTORY CONTAIN HISTORY RECORD OF TAPE-LIKE REPRODUCTION ?

S202 READ FRAME OF CLIP DESIGNATED IN REPRODUCTION HISTORY WITH DISC INTERNAL ID AS REPRODUCTION START FRAME ACCORDING TO CLIP TABLE.

S203 READ TOP FRAME OF FIRST CLIP AS REPRODUCTION START FRAME ACCORDING TO CLIP TABLE.

S204 HAS REPRODUCTION START POSITION CHANGE COMMAND BEEN ACCEPTED ?

S205 READ FRAME OF CLIP DESIGNATED WITH DISC INTERNAL ID AS REPRODUCTION START FRAME ACCORDING TO CLIP TABLE.

S206 IS PROCESS COMPLETED ?

S207 HAS REPRODUCTION START COMMAND BEEN ACCEPTED ?

S208 START REPRODUCTION FROM REPRODUCTION START FRAME ACCORDING TO CLIP TABLE.

S209 UPDATE DISC INFORMATION FILE.

S210 EXECUTE COMPLETION PROCESS.

S231 HAS REPRODUCTION STOP COMMAND BEEN ACCEPTED ?

S232 HAS CURRENT CLIP BEEN REPRODUCED ?

S233 IS THERE NEXT CLIP ?

S234 CAN CLIP BE REPRODUCED ?

S235 REPRODUCE DESIGNATED CLIP ACCORDING TO CLIP TABLE.

S236 STOP REPRODUCTION.

S237 READ TOP FRAME OF FIRST CLIP AS REPRODUCTION START FRAME ACCORDING TO CLIP TABLE.

S238 STOP REPRODUCTION.

S239 DESIGNATE STOP FRAME AS REPRODUCTION START FRAME.

S311 DOES REPRODUCTION HISTORY CONTAIN REPRODUCTION HISTORY RECORD OF EDIT LIST TO BE REPRODUCED ?

S312 READ FRAME DESIGNATED IN REPRODUCTION HISTORY RECORD WITH DISC INTERNAL ID AS REPRODUCTION START FRAME.

S313 READ TOP FRAME OF FIRST CLIP AS REPRODUCTION START FRAME ACCORDING TO EDIT LIST.

S314 HAS REPRODUCTION START POSITION CHANGE COMMAND BEEN ACCEPTED ?

S315 READ DESIGNATED FRAME AS REPRODUCTION START FRAME ACCORDING TO EDIT LIST.

S316 IS PROCESS COMPLETED ?

S317 HAS REPRODUCTION START COMMAND BEEN ACCEPTED ?

S318 START REPRODUCTION FROM REPRODUCTION START FRAME ACCORDING TO EDIT LIST.

S319 UPDATE DISC INFORMATION FILE.

S320 EXECUTE COMPLETION PROCESS.

S341 HAS REPRODUCTION STOP COMMAND BEEN ACCEPTED ?

S342 HAS CURRENT CLIP BEEN REPRODUCED ?

S343 IS THERE NEXT CLIP ?

S344 CAN CLIP BE REPRODUCED ?

S345 REPRODUCE DESIGNATED CLIP ACCORDING TO EDIT LIST.

S346 STOP REPRODUCTION.

S347 READ TOP FRAME OF FIRST CLIP AS REPRODUCTION START FRAME ACCORDING TO EDIT LIST.

S348 STOP REPRODUCTION.

S349 DESIGNATE STOP FRAME AS REPRODUCTION START FRAME.

S371 DOES REPRODUCTION HISTORY CONTAIN REPRODUCTION HISTORY RECORD OF CLIP TO BE REPRODUCED ?

S372 READ FRAME DESIGNATED IN REPRODUCTION HISTORY WITH DISC INTERNAL ID AS REPRODUCTION START FRAME.

S373 READ TOP FRAME AS REPRODUCTION START FRAME ACCORDING TO CLIP INFORMATION FILE.

S374 HAS REPRODUCTION START POSITION CHANGE COMMAND BEEN ACCEPTED ?

S375 READ DESIGNATED FRAME AS REPRODUCTION START FRAME ACCORDING TO CLIP INFORMATION FILE.

S376 IS PROCESS COMPLETED ?

S377 HAS REPRODUCTION START COMMAND BEEN ACCEPTED ?

S378 START REPRODUCTION FROM REPRODUCTION START FRAME ACCORDING TO CLIP INFORMATION FILE.

S379 UPDATE DISC INFORMATION FILE.

S380 EXECUTE COMPLETION PROCESS.

S401 HAS REPRODUCTION STOP COMMAND BEEN ACCEPTED ?

S402 HAS CLIP BEEN REPRODUCED ?

S403 STOP REPRODUCTION.

S404 READ TOP FRAME AS REPRODUCTION START FRAME.

S405 STOP REPRODUCTION.

S406 DESIGNATE STOP FRAME AS REPRODUCTION START FRAME.

S421 TAKE-LIKE REPRODUCTION ?

S422 GENERATE HISTORY RECORD OF TAKE-LIKE REPRODUCTION WITH DISC INTERNAL ID.

S423 DOES CURRENT REPRODUCTION HISTORY CONTAIN HISTORY RECORD OF TAKE-LIKE REPRODUCTION ?

S424 DELETE OLD HISTORY RECORD OF TAKE-LIKE REPRODUCTION AND REGISTER GENERATED HISTORY RECORD OF TAKE-LIKE REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S425 DELETE OLDEST HISTORY RECORD OF REPRODUCTION HISTORY AND REGISTER GENERATED HISTORY RECORD OF TAKE-LIKE REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S426 EDIT LIST DESIGNATION REPRODUCTION ?

S427 GENERATE HISTORY RECORD OF EDIT LIST DESIGNATION REPRODUCTION WITH DISC INTERNAL ID.

S428 DOES CURRENT REPRODUCTION HISTORY CONTAIN HISTORY RECORD OF EDIT LIST DESIGNATION REPRODUCTION FOR SAME EDIT LIST.

S429 DELETE OLD HISTORY RECORD OF EDIT LIST DESIGNATION REPRODUCTION AND REGISTER GENERATED HISTORY RECORD OF EDIT LIST DESIGNATION REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S430 DELETE OLDEST HISTORY RECORD OF REPRODUCTION HISTORY AND REGISTER GENERATED HISTORY RECORD OF EDIT LIST REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S451 CLIP DESIGNATION REPRODUCTION ?

S452 GENERATE HISTORY RECORD OF CLIP DESIGNATION REPRODUCTION WITH

DISC INTERNAL ID.

S453 DOES CURRENT REPRODUCTION HISTORY CONTAIN HISTORY RECORD OF CLIP DESIGNATION REPRODUCTION FOR SAME CLIP ?

S454 DELETE OLD HISTORY RECORD OF CLIP DESIGNATION REPRODUCTION AND REGISTER GENERATED HISTORY RECORD OF CLIP DESIGNATION REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S455 DELETE OLDEST HISTORY RECORD OF REPRODUCTION HISTORY AND REGISTER GENERATED HISTORY RECORD OF CLIP DESIGNATION REPRODUCTION AT POSITION OF NEWEST HISTORY RECORD.

S456 RECORD DISC INFORMATION FILE.